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Docket No. 3469.234-US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Rasmussen, *et al.*

Serial No.: 09/735,787

Group Art Unit: 1751

Confirmation No. 6609

Filed: December 13, 2000

Examiner: M. Rao

For: CELLULASE PREPARATION COMPRISING AN ENDOGLUCANASE ENZYME

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November 21, 2001

Director of Patents  
Washington, D.C. 20231

**REQUEST PURSUANT TO 37 C.F.R. §1.607 FOR  
INTERFERENCE WITH U.S. PATENT NOS. 6,107,265 AND 6,162,782**

Sir:

Applicants hereby request, pursuant to 37 C.F.R. §1.607, that an interference be declared between (i) the above-identified application and (ii) U.S. Patent Nos. 6,107,265 and 6,162,782.

**I. Identification Pursuant to 37 C.F.R. §1.607(a)(1) of Patents**

Applicants request that an interference be declared between (i) the above-identified application and (ii) U.S. Patent Nos. 6,107,265 (“the ‘265 patent”) and 6,162,782 (“the ‘782 patent”), both of Kathleen A. Clarkson, Edmund Larenas, Sharon Shoemaker, and Geoffrey L. Weiss, and both entitled “Detergent Compositions Containing Cellulase Compositions Deficient in CBH I Type Components”. The ‘265 patent issued on August 22, 2000, and the ‘782 patent issued on December 19, 2000, both less than one year before claims were filed in the present application which are the same as or for the same or substantially the same subject matter as a claim or claims of each of the ‘265 and ‘782 patents. The ‘782 patent issued from a continuation of the application that issued as the ‘265 patent. The ‘782 patent has been terminally disclaimed over the ‘265 patent. The ‘265 and ‘782 patents are assigned to Genencor International, Inc., Palo Alto, California. Copies of the ‘265 and ‘782 patents are attached hereto as Exhibits 1 and 2, respectively.

**II. Presentation of a Proposed Count**

Applicants propose the following count as the count of the requested interference.

Count

Claim 32 of the present application:

A composition comprising:

(A) a detergent effective amount of one or more surfactants; and

(B) from 0.0001 to 2.5 percent by weight, based upon 100 percent by weight of said composition, of a fungal cellulase, said fungal cellulase comprising an endoglucanase, wherein said fungal cellulase is free of CBH activity;

or

Claim 50 of the present application:

A composition comprising:

(A) a detergent effective amount of one or more surfactants; and

(B) from 0.0001 to 2.5 percent by weight, based upon 100 percent by weight of said composition, of a fungal cellulase, said fungal cellulase comprising one or more endoglucanase component, wherein said endoglucanase components has a CMC-endoase activity of at least about 50 CMC-endoase units/mg of total cellulase, wherein said fungal cellulase does not degrade highly crystalline cellulose or cellobiose or cellobiose beta-p-nitrophenyl, and wherein said fungal cellulase degrades amorphous cellulose to a mixture comprising cellobiose, cellotriose, and cellotetraose;

or

Claim 1 of the '782 patent:

A detergent composition comprising:

(A) a cleaning effective amount of a surfactant or a mixture of surfactants;

and

(B) a fungal cellulase composition in a sufficient amount to impart color restoration/retention and softness to a cotton garment wherein said cellulase composition comprises one or more endoglucanase components and less than about 5 weight percent of exocellobiohydrolase components based on the weight of the protein in the cellulase composition;

or

Claim 7 of the '782 patent:

A method for enhancing the softness of a cotton-containing fabric which method comprises washing the fabric in a wash medium derived from a detergent composition comprising (a) from about 5 weight percent to about 95 weight percent of a surfactant or a mixture of surfactants; and (b) a fungal cellulase composition in a sufficient amount to impart color restoration/retention and softness to a cotton garment wherein said cellulase composition comprises one or more endoglucanase components and less than about 5 weight percent of exo-cellobiohydrolase components based on the weight of the protein in the cellulase composition;

or

Claim 13 of the '782 patent:

A method for retaining/restoring the color of a cotton-containing fabric which method comprises washing the fabric one or more times in a wash medium derived from a detergent composition comprising (a) from about 5 weight percent to about 95 weight percent of a surfactant or a mixture of surfactants; and (b) of a fungal cellulase composition in a sufficient amount to impart color restoration/retention and softness to a cotton garment wherein said cellulase composition comprises one or more endoglucanase components and less than about 5 weight percent of exo-cellobiohydrolase components based on the weight of the protein in the cellulase composition.

**III. Identification Pursuant to 37 C.F.R. §1.607(a)(3) of Claims of the Patents Corresponding to the Proposed Count**

**A. Identification Pursuant to 37 C.F.R. §1.607(a)(3) of Claims of the '265 Patent Corresponding to the Proposed Count**

The '265 patent includes 7 claims. Claims 1-7 of the '265 patent correspond substantially to the proposed Count. All of the claims of the '265 patent are directed to embodiments of a single invention - a detergent composition that contains a cellulase composition that does not have unacceptable exo-cellobiohydrolase (CBH) activity. Exo-cellobiohydrolase (CBH) is a component of many naturally occurring microbial cellulase compositions.

**B. Identification Pursuant to 37 C.F.R. §1.607(a)(3) of Claims of the '782 Patent Corresponding to the Proposed Count**

The '782 patent includes 18 claims. Claims 1, 7, and 13 of the '782 patent correspond exactly to the proposed Count. Claims 2-6, 8-12, and 14-18 of the '782 patent correspond substantially to the proposed Count. All of the claims of the '782 patent are directed to embodiments of a single invention - a detergent composition that contains a cellulase composition that does not have unacceptable exo-cellobiohydrolase (CBH) activity. Exo-cellobiohydrolase (CBH) is a component of many naturally occurring microbial cellulase compositions.

**IV. Identification Pursuant to 37 C.F.R. §1.607(4) of Claims in the Present Application which Correspond to the Proposed Count**

Claims 32 and 50 of the present application correspond exactly to the proposed Count. Claims 33-49 and 51-54 of the present application correspond substantially to the proposed Count. These claims are also directed to embodiments of a single invention - a detergent

composition that contains a cellulase composition that does not have unacceptable exo-cellobiohydrolase (CBH) activity.

Therefore, applicants submit that there is interfering subject matter between (i) claims 1-7 of the '265 patent and claims 1-18 of the '782 patent and (ii) pending claims 32-54 of the present application. Accordingly, applicants request that an interference be declared under 37 C.F.R. §1.611, having the Count and the corresponding claims as proposed above.

**V. Explanation Pursuant to 37 C.F.R. §1.607(a)(4) of Why Each Claim of the '265 and '782 Patents That Do Not Correspond Exactly to the Proposed Count Corresponds to the Proposed Count**

**A. The '265 Patent Claims**

Applicants submit that the claims of the '265 includes several limitations which are not necessary to describe the claimed invention. Accordingly, applicants have presented a proposed Count including alternative descriptions of the same patentable invention. All of the claims of the '265 patent (claims 1-7) correspond substantially to the proposed Count.

**Claim 1 of the '265 Patent**

Claim 1 of the '265 patent is an independent claim. Genencor admitted that claims 1-7 of the '265 patent claim the same patentable invention as claims 1-6 of the '782 patent. One invention is the same patentable invention as a second invention when the first invention is the same as (35 U.S.C. §102) or is obvious (35 U.S.C. §103) in view of the second invention, assuming the second invention is prior art with respect to the first invention. 37 C.F.R. §1.601(n). The claims that issued as claims 1-7 of the '782 patent were rejected under the judicially created doctrine of

obviousness-type double patenting as unpatentable over the claims that issued as claims 1-7 of the '265 patent. Genencor acquiesced in this rejection and overcame the rejection by filing a terminal disclaimer in the '782 patent over the '265 patent.

Claim 1 of the '782 patent corresponds exactly to the proposed Count. Therefore, because claim 1 of the '265 patent and claim 1 of the '782 patent admittedly claim the same patentable invention, claim 1 of the '265 patent corresponds to the proposed Count.

#### Claim 2 of the '265 Patent

Claim 2 depends from claim 1 and further specifies that the amount of the cellulase composition is from about 0.05 to 2 weight percent of the composition. Genencor admitted that claims 1-7 of the '265 patent claim the same patentable invention as claims 1-6 of the '782 patent. One invention is the same patentable invention as a second invention when the first invention is the same as (35 U.S.C. §102) or is obvious (35 U.S.C. §103) in view of the second invention, assuming the second invention is prior art with respect to the first invention. 37 C.F.R. §1.601(n). The claims that issued as claims 1-6 of the '782 patent were rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims that issued as claims 1-7 of the '265 patent. Genencor acquiesced in this rejection and overcame the rejection by filing a terminal disclaimer in the '782 patent over the '265 patent.

Claim 1 of the '782 patent corresponds exactly to the proposed Count. Therefore, because claim 2 of the '265 patent and claim 1 of the '782 patent admittedly claim the same patentable invention, claim 2 of the '265 patent corresponds to the proposed Count.

### Claim 3 of the '265 Patent

Claim 3 depends from claim 1 and further specifies that the cellulase composition is free of all CBH type components. Genencor admitted that claims 1-7 of the '265 patent claim the same patentable invention as claims 1-6 of the '782 patent. One invention is the same patentable invention as a second invention when the first invention is the same as (35 U.S.C. §102) or is obvious (35 U.S.C. §103) in view of the second invention, assuming the second invention is prior art with respect to the first invention. 37 C.F.R. §1.601(n). The claims that issued as claims 1-6 of the '782 patent were rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims that issued as claims 1-7 of the '265 patent. Genencor acquiesced in this rejection and overcame the rejection by filing a terminal disclaimer in the '782 patent over the '265 patent.

Claim 1 of the '782 patent corresponds exactly to the proposed Count. Therefore, because claim 3 of the '265 patent and claim 1 of the '782 patent admittedly claim the same patentable invention, claim 3 of the '265 patent corresponds to the proposed Count.

### Claim 4 of the '265 Patent

Claim 4 depends from claim 1 and further specifies that the cellulase is derived from a genetically modified microorganism that can not express any CBH type I sub-components. Genencor admitted that claims 1-7 of the '265 patent claim the same patentable invention as claims 1-6 of the '782 patent. One invention is the same patentable invention as a second invention when the first invention is the same as (35 U.S.C. §102) or is obvious (35 U.S.C. §103) in view of the second invention, assuming the second invention is prior art with respect to the first invention. 37



C.F.R. §1.601(n). The claims that issued as claims 1-6 of the '782 patent were rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims that issued as claims 1-7 of the '265 patent. Genencor acquiesced in this rejection and overcame the rejection by filing a terminal disclaimer in the '782 patent over the '265 patent.

Claim 1 of the '782 patent corresponds exactly to the proposed Count. Therefore, because claim 4 of the '265 patent and claim 1 of the '782 patent admittedly claim the same patentable invention, claim 4 of the '265 patent corresponds to the proposed Count.

Claim 5 of the '265 Patent

Claim 5 depends from claim 4 and further specifies that the cellulase is derived from a genetically modified microorganism that can not express any CBH type components. Genencor admitted that claims 1-7 of the '265 patent claim the same patentable invention as claims 1-6 of the '782 patent. One invention is the same patentable invention as a second invention when the first invention is the same as (35 U.S.C. §102) or is obvious (35 U.S.C. §103) in view of the second invention, assuming the second invention is prior art with respect to the first invention. 37 C.F.R. §1.601(n). The claims that issued as claims 1-6 of the '782 patent were rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims that issued as claims 1-7 of the '265 patent. Genencor acquiesced in this rejection and overcame the rejection by filing a terminal disclaimer in the '782 patent over the '265 patent.

Claim 1 of the '782 patent corresponds exactly to the proposed Count. Therefore, because claim 5 of the '265 patent and claim 1 of the '782 patent admittedly claim the same patentable invention, claim 5 of the '265 patent corresponds to the proposed Count.

#### Claim 6 of the '265 Patent

Claim 6 depends from claim 5 and adds that the cellulase does not contain any heterologous proteins. Genencor admitted that claims 1-7 of the '265 patent claim the same patentable invention as claims 1-6 of the '782 patent. One invention is the same patentable invention as a second invention when the first invention is the same as (35 U.S.C. §102) or is obvious (35 U.S.C. §103) in view of the second invention, assuming the second invention is prior art with respect to the first invention. 37 C.F.R. §1.601(n). The claims that issued as claims 1-6 of the '782 patent were rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims that issued as claims 1-7 of the '265 patent. Genencor acquiesced in this rejection and overcame the rejection by filing a terminal disclaimer in the '782 patent over the '265 patent.

Claim 1 of the '782 patent corresponds exactly to the proposed Count. Therefore, because claim 6 of the '265 patent and claim 1 of the '782 patent admittedly claim the same patentable invention, claim 6 of the '265 patent corresponds to the proposed Count.

#### Claim 7 of the '265 Patent

Claim 7 depends from claim 4 and further specifies that the genetically modified microorganism is capable of overexpressing one or more endoglucanase components. Genencor admitted that claims 1-7 of the '265 patent claim the same patentable invention as claims 1-6 of the '782 patent. One invention is the same patentable invention as a second invention when the first invention is the same as (35 U.S.C. §102) or is obvious (35 U.S.C. §103) in view of the second invention, assuming the second invention is prior art with respect to the first invention. 37 C.F.R.

§1.601(n). The claims that issued as claims 1-6 of the '782 patent were rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over the claims that issued as claims 1-7 of the '265 patent. Genencor acquiesced in this rejection and overcame the rejection by filing a terminal disclaimer in the '782 patent over the '265 patent.

Claim 1 of the '782 patent corresponds exactly to the proposed Count. Therefore, because claim 7 of the '265 patent and claim 1 of the '782 patent admittedly claim the same patentable invention, claim 7 of the '265 patent corresponds to the proposed Count.

**B. The '782 Patent Claims**

Applicants submit that certain of the claims of the '782 patent include several limitations which are not necessary to describe the claimed invention. Accordingly, applicants have presented a proposed Count including alternative descriptions of the same patentable invention. Claims 1, 7, and 13 of the '782 patent correspond exactly to the proposed Count. The remaining claims of the '782 patent (claims 2-6, 8-12, and 14-18) correspond substantially to the proposed Count.

**Claim 2 of the '782 Patent**

Claim 2 depends from claim 1 and further specifies that the amount of cellulase composition is from about 0.05 to 2 weight percent of the composition. This amount is within the scope of the proposed Count.

This limitation does not patentably distinguish claim 2 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 2 corresponds to the proposed Count.

Claim 3 of the '782 Patent

Claim 3 depends from claim 1 and further specifies that the cellulase composition is free of all exocellobiohydrolase (CBH) components. The proposed Count specifies that the fungal cellulase composition is free of CBH activity; or comprises less than about 5 weight percent of exocellobiohydrolase (CBH) components based on the weight of the protein in the cellulase composition. Both of these limitations encompass the limitation of claim 3.

This limitation does not patentably distinguish claim 3 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 3 corresponds to the proposed Count.

Claim 4 of the '782 Patent

Claim 4 depends from claim 3 and further specifies that the cellulase composition is derived from a genetically modified microorganism that can not express any exocellobiohydrolase (CBH) components and/or can overexpress one or more endoglucanase components. The '782 patent explains that (Exh. 2, col. 8, ll. 12-36):

Likewise, it is also possible to genetically modify an organism so as to overproduce one or more EG components. For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable

of producing one or more CBH components and/or overproducing one or more EG components.

\* \* \* \* \*

Miller et al., "Direct and Indirect Gene Replacement in *Aspergillus nidulans*", Molecular and Cellular Biology, p. 1714-1721 (1985) discloses methods for deleting genes in *Aspergillus nidulans* by DNA mediated transformation using a linear fragment of homologous DNA. The methods of Miller et al. would achieve gene deletion without producing any heterologous proteins.

In view of the above, the deletion of the genes responsible for producing either CBH I type or CBH II type cellulase components would have the effect of enriching the amount of EG type components present in the cellulase composition. Likewise, the deletion of those genes responsible for producing CBH I and II type components would result in a cellulase composition free of CBH type components.

Such genetic modification was known in the art.

This limitation does not patentably distinguish claim 4 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 4 corresponds to the proposed Count.

#### Claim 5 of the '782 Patent

Claim 5 depends from claim 4 and further specifies that the cellulase is derived from a genetically modified microorganism that can not express any CBH type components. The '782 patent explains that (Exh. 2, col. 8, ll. 12-36):

Likewise, it is also possible to genetically modify an organism so as to overproduce one or more EG components. For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable

of producing one or more CBH components and/or overproducing one or more EG components.

\* \* \* \* \*

Miller et al., "Direct and Indirect Gene Replacement in *Aspergillus nidulans*", Molecular and Cellular Biology, p. 1714-1721 (1985) discloses methods for deleting genes in *Aspergillus nidulans* by DNA mediated transformation using a linear fragment of homologous DNA. The methods of Miller et al. would achieve gene deletion without producing any heterologous proteins.

In view of the above, the deletion of the genes responsible for producing either CBH I type or CBH II type cellulase components would have the effect of enriching the amount of EG type components present in the cellulase composition. Likewise, the deletion of those genes responsible for producing CBH I and II type components would result in a cellulase composition free of CBH type components.

Such genetic modification was known in the art.

The '782 patent also explains that the CBH component of the only fungal cellulase composition discussed in the '782 patent contains only two sub-components, CBH I and CBH II. Exh. 2, col. 1, ll. 61-66. Therefore, the genetically modified microorganisms described by Miller et al. would not express any CBH type components.

This limitation does not patentably distinguish claim 5 of this '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 5 corresponds to the proposed Count.

Claim 6 of the '782 Patent

Claim 6 depends from claim 5 and adds that the cellulase does not contain any heterologous proteins.

The '782 patent explains that (Exh. 2, col. 8, ll. 15-23):

For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components. Moreover, the methods of that application create *Trichoderma longibrachiatum* strains that do not produce any heterologous proteins.

This limitation does not patentably distinguish claim 6 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 6 corresponds to the proposed Count.

Claim 8 of the '782 Patent

Claim 8 depends from claim 7 and further specifies that the amount of cellulase composition is from about 0.05 to about 2 weight percent of the composition. This amount is within the scope of the proposed Count.

This limitation does not patentably distinguish claim 8 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 8 corresponds to the proposed Count.

Claim 9 of the '782 Patent

Claim 9 depends from claim 7 and further specifies that the cellulase composition is free of all exocellobiohydrolase (CBH) components. The proposed Count specifies that the fungal cellulase composition is free of CBH activity; or comprises less than about 5 weight percent of exocellobiohydrolase (CBH) components based on the weight of the protein in the cellulase composition. Both of these limitations encompass the limitation of claim 9.

This limitation does not patentably distinguish claim 9 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 9 corresponds to the proposed Count.

Claim 10 of the '782 Patent

Claim 10 depends from claim 7 and further specifies that the cellulase composition is derived from a genetically modified microorganism that can not express any exocellobiohydrolase (CBH) components and/or can overexpress one or more endoglucanase components. The '782 patent explains that (Exh. 2, col. 8, ll. 12-36):

Likewise, it is also possible to genetically modify an organism so as to overproduce one or more EG components. For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components.

\* \* \* \* \*

Miller et al., "Direct and Indirect Gene Replacement in *Aspergillus nidulans*", Molecular and Cellular Biology, p. 1714-1721 (1985) discloses methods for deleting genes in *Aspergillus nidulans* by DNA



mediated transformation using a linear fragment of homologous DNA. The methods of Miller et al. would achieve gene deletion without producing any heterologous proteins.

In view of the above, the deletion of the genes responsible for producing either CBH I type or CBH II type cellulase components would have the effect of enriching the amount of EG type components present in the cellulase composition. Likewise, the deletion of those genes responsible for producing CBH I and II type components would result in a cellulase composition free of CBH type components.

Such genetic modification was known in the art.

This limitation does not patentably distinguish claim 10 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 10 corresponds to the proposed Count.

#### Claim 11 of the '782 Patent

Claim 11 depends from claim 7 and further specifies that the cellulase is derived from a genetically modified microorganism that can not express any CBH type components. The '782 patent explains that (Exh. 2, col. 8, ll. 12-36):

Likewise, it is also possible to genetically modify an organism so as to overproduce one or more EG components. For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components.

\* \* \* \* \*

Miller et al., "Direct and Indirect Gene Replacement in *Aspergillus nidulans*", Molecular and Cellular Biology, p. 1714-1721 (1985) discloses methods for deleting genes in *Aspergillus nidulans* by DNA mediated transformation using a linear fragment of homologous

DNA. The methods of Miller et al. would achieve gene deletion without producing any heterologous proteins.

In view of the above, the deletion of the genes responsible for producing either CBH I type or CBH II type cellulase components would have the effect of enriching the amount of EG type components present in the cellulase composition. Likewise, the deletion of those genes responsible for producing CBH I and II type components would result in a cellulase composition free of CBH type components.

The '782 patent also explains that the CBH component of the only fungal cellulase composition discussed in the '782 patent contains only two sub-components, CBH I and CBH II. Therefore, the genetically modified microorganisms described by Miller et al. would not express any CBH type components.

This limitation does not patentably distinguish claim 11 of this '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 11 corresponds to the proposed Count.

#### Claim 12 of the '782 Patent

Claim 12 depends from claim 7 and adds that the cellulase does not contain any heterologous proteins.

The '782 patent explains that (Exh. 2, col. 8, ll. 15-23):

For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components. Moreover, the methods of that application create *Trichoderma longibrachiatum* strains that do not produce any heterologous proteins.

This limitation does not patentably distinguish claim 12 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 12 corresponds to the proposed Count.

Claim 14 of the '782 Patent

Claim 14 depends from claim 13 and further specifies that the amount of cellulase composition is from about 0.05 to about 2 weight percent of the composition. This amount is within the scope of the proposed Count.

This limitation does not patentably distinguish claim 14 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 14 corresponds to the proposed Count.

Claim 15 of the '782 Patent

Claim 15 depends from claim 13 and further specifies that the cellulase composition is free of all exocellobiohydrolase (CBH) components. The proposed Count specifies that the fungal cellulase composition is free of CBH activity; or comprises less than about 5 weight percent of exocellobiohydrolase (CBH) components based on the weight of the protein in the cellulase composition. Both of these limitations encompass the limitation of claim 15.

This limitation does not patentably distinguish claim 15 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 15 corresponds to the proposed Count.

Claim 16 of the '782 Patent

Claim 16 depends from claim 13 and further specifies that the cellulase composition is derived from a genetically modified microorganism that can not express any exocellobiohydrolase (CBH) components and/or can overexpress one or more endoglucanase components. The '782 patent explains that (Exh. 2, col. 8, ll. 12-36):

Likewise, it is also possible to genetically modify an organism so as to overproduce one or more EG components. For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components.

\* \* \* \* \*

Miller et al., "Direct and Indirect Gene Replacement in *Aspergillus nidulans*", Molecular and Cellular Biology, p. 1714-1721 (1985) discloses methods for deleting genes in *Aspergillus nidulans* by DNA mediated transformation using a linear fragment of homologous DNA. The methods of Miller et al. would achieve gene deletion without producing any heterologous proteins.

In view of the above, the deletion of the genes responsible for producing either CBH I type or CBH II type cellulase components would have the effect of enriching the amount of EG type components present in the cellulase composition. Likewise, the deletion of those genes responsible for producing CBH I and II type components would result in a cellulase composition free of CBH type components.

Such genetic modification was known in the art.

This limitation does not patentably distinguish claim 16 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 16 corresponds to the proposed Count.

Claim 17 of the '782 Patent

Claim 17 depends from claim 13 and further specifies that the cellulase is derived from a genetically modified microorganism that can not express any CBH type components. The '782 patent explains that (Exh. 2, col. 8, ll. 12-36):

Likewise, it is also possible to genetically modify an organism so as to overproduce one or more EG components. For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components.

\* \* \* \* \*

Miller et al., "Direct and Indirect Gene Replacement in *Aspergillus nidulans*", Molecular and Cellular Biology, p. 1714-1721 (1985) discloses methods for deleting genes in *Aspergillus nidulans* by DNA mediated transformation using a linear fragment of homologous DNA. The methods of Miller et al. would achieve gene deletion without producing any heterologous proteins.

In view of the above, the deletion of the genes responsible for producing either CBH I type or CBH II type cellulase components would have the effect of enriching the amount of EG type components present in the cellulase composition. Likewise, the deletion of those genes responsible for producing CBH I and II type components would result in a cellulase composition free of CBH type components.

Such genetic modification was known in the art.

The '782 patent also explains that the CBH component of the only fungal cellulase composition discussed in the '782 patent contains only two sub-components, CBH I and CBH II. Therefore, the genetically modified microorganisms described by Miller et al. would not express any CBH type components.

This limitation does not patentably distinguish claim 17 of this '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 17 corresponds to the proposed Count.

Claim 18 of the '782 Patent

Claim 18 depends from claim 17 and adds that the cellulase does not contain any heterologous proteins.

The '782 patent explains that (Exh. 2, col. 8, ll. 15-23):

For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components. Moreover, the methods of that application create *Trichoderma longibrachiatum* strains that do not produce any heterologous proteins.

This limitation does not patentably distinguish claim 18 of the '782 patent from the prior art, the invention disclosed in the present application, or the proposed Count. Accordingly, claim 18 corresponds to the proposed Count.

**VI. Explanation Pursuant to 37 C.F.R. §1.607(a)(4) of Why Each Claim of the Present Application That Does Not Correspond Exactly to the Proposed Count, Corresponds to the Proposed Count**

Claims 32 and 50 of the present application correspond exactly to the proposed Count. The remaining claims of the present application (claims 33-49 and 51-54) correspond substantially to the proposed Count.

#### Claim 33 of the Present Application

Claim 33 depends from claim 32 and adds that the composition has a pH ranging from 3 to 10. The '782 patent explains that the detergent compositions of the present invention can be used in wash media having acidic, neutral or alkaline pHs, ranging from about 4 to about 10, preferably to about 9, and more preferably to about 8. Exh. 2, col. 5, ll. 4-5, col. 10, ll. 42-49. The '782 patent further explains that a wash medium is an aqueous wash solution prepared by diluting a detergent composition in water. Exh. 2, col. 10, ll. 36-38. The dilution of a composition of the present invention having a pH in the range as in claim 33, could result in an acidic, neutral or alkaline pH in the range as described in the '782 patent as useful wash media.

This limitation does not patentably distinguish claim 33 of the present application from the prior art or the proposed Count. Accordingly, claim 33 corresponds to the proposed Count.

#### Claim 34 of the Present Application

Claim 34 depends from claim 32 and adds that the fungal cellulase is homogeneous.

The '782 patent explains that (Exh. 2, col. 8, ll. 15-23):

For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components. Moreover, the methods of that application create *Trichoderma longibrachiatum* strains that do not produce any heterologous proteins.

This limitation does not patentably distinguish claim 33 of the present application from the prior art or the proposed Count. Accordingly, claim 34 corresponds to the proposed Count.

#### Claim 35 of the Present Application

Claim 35 of the present application depends from claim 32 and adds that the fungal cellulase composition is prepared from a genetically modified organism. The '782 patent discloses genetic modification to produce organisms that yield fungal cellulase composition. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 35 of the present application from the prior art or the proposed Count. Accordingly, claim 35 corresponds to the proposed Count.

#### Claim 36 of the Present Application

Claim 36 of the present application depends from claim 35 and adds that the genetically modified organism is a fungus. The '782 patent discloses the genetic modification of a fungus to produce fungal cellulase compositions. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 36 of the present application from the prior art or the proposed Count. Accordingly, claim 36 corresponds to the proposed Count.

#### Claim 37 of the Present Application

Claim 37 depends from claim 32 and adds that the endoglucanase component has a CMC-endoase activity of at least 50 CMC-endoase units/mg of total cellulase. The present application explains that CMC-endoase activity is the endoglucanase activity of the endoglucanase component of the fungal cellulase in terms of certain abilities. Spec., p. 3, ll. 3-9. A unit of CMC-endoase activity is a measurement of this. Spec., p. 3, ll. 25-28.



This limitation does not patentably distinguish claim 37 of the present application from the prior art or the proposed Count. Accordingly, claim 37 corresponds to the proposed Count.

#### Claim 38 of the Present Application

Claim 38 of the present application is an independent claim which is identical to claim 32, except that the transition term “comprising” has been replaced with the transition term “consisting essentially of”. However, claim 38 is directed to the same patentable invention as is claim 32 - a detergent composition that contains a cellulase composition that does not have unacceptable exo-cellobiohydrolase (CBH) activity. Exo-cellobiohydrolase (CBH) is a component of many naturally occurring microbial cellulase compositions.

This transition term does not patentably distinguish claim 38 of the present application from the proposed Count. Accordingly, claim 38 corresponds to the proposed Count.

#### Claim 39 of the Present Application

Claim 39 depends from claim 38 and adds that the composition has a pH ranging from 3 to 10. The ‘782 patent explains that the detergent compositions of the present invention can be used in wash media having acidic, neutral or alkaline pH, ranging from about 4 to about 10, preferably to about 9, and more preferably to about 8. Exh. 2, col. 5, ll. 4-5, col. 10, ll. 42-49. The ‘785 patent further explains that a wash medium is an aqueous wash solution prepared by diluting a detergent composition in water. Exh. 2, col. 10, ll. 36-38. The dilution of a composition of the present invention having a pH in the range as in claim 39, could result in an acidic, neutral or alkaline pH in the range as described in the ‘785 patent as useful wash media.

This limitation does not patentably distinguish claim 39 of the present application from the prior art or the proposed Count. Accordingly, claim 39 corresponds to the proposed Count.

Claim 40 of the Present Application

Claim 40 depends from claim 38 and adds that the fungal cellulase is homogeneous.

The '782 patent explains that (Exh. 2, col. 8, ll. 15-23):

For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components. Moreover, the methods of that application create *Trichoderma longibrachiatum* strains that do not produce any heterologous proteins.

This limitation does not patentably distinguish claim 40 of the present application from the prior art or the proposed Count. Accordingly, claim 40 corresponds to the proposed Count.

Claim 41 of the Present Application

Claim 41 of the present application depends from claim 38 and adds that the fungal cellulase composition is prepared from a genetically modified organism. The '782 patent discloses genetic modification to produce organisms that yield fungal cellulase composition. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 41 of the present application from the prior art or the proposed Count. Accordingly, claim 41 corresponds to the proposed Count.

#### Claim 42 of the Present Application

Claim 42 of the present application depends from claim 41 and adds that the genetically modified organism is a fungus. The '782 patent discloses the genetic modification of a fungus to produce fungal cellulase compositions. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 42 of the present application from the prior art or the proposed Count. Accordingly, claim 42 corresponds to the proposed Count.

#### Claim 43 of the Present Application

Claim 43 depends from claim 38 and adds that the endoglucanase component has a CMC-endoase activity of at least 50 CMC-endoase units/mg of total cellulase. The present application explains that CMC-endoase activity is the endoglucanase activity of the endoglucanase component of the fungal cellulase composition in terms of certain abilities. Spec., p. 3, ll. 3-9. A unit of CMC-endoase activity is a measurement of this. Spec., p. 3, ll. 25-28.

This limitation does not patentably distinguish claim 43 of the present application from the prior art or the proposed Count. Accordingly, claim 43 corresponds to the proposed Count.

#### Claim 44 of the Present Application

Claim 44 of the present application is an independent claim which is identical to claim 32, except that the transition term "comprising" has been replaced with the transition term "consisting of". However, claim 44 is directed to the same patentable invention as is claim 32 - a detergent composition that contains a cellulase component that does not have unacceptable exo-

cellobiohydrolase (CBH) activity. Exo-cellobiohydrolase (CBH) is a component of many naturally occurring microbial cellulase compositions.

This transition term does not patentably distinguish claim 44 of the present application from the proposed Count. Accordingly, claim 44 corresponds to the proposed Count.

#### Claim 45 of the Present Application

Claim 45 depends from claim 44 and adds that the composition has a pH ranging from 3 to 10. The '782 patent explains that the detergent compositions of the present invention can be used in wash media having acidic, neutral or alkaline pH, ranging from about 4 to about 10, preferably to about 9, and more preferably to about 8. Exh. 2, col. 5, ll. 4-5, col. 10, ll. 42-49. The '785 patent further explains that a wash medium is an aqueous wash solution prepared by diluting a detergent composition in water. Exh. 2, col. 10, ll. 36-38. The dilution of a composition of the present invention having a pH in the range as in claim 45, could result in an acidic, neutral or alkaline pH in the range as described in the '785 patent as useful wash media.

This limitation does not patentably distinguish claim 45 of the present application from the prior art or the proposed Count. Accordingly, claim 45 corresponds to the proposed Count.

#### Claim 46 of the Present Application

Claim 46 depends from claim 44 and adds that the fungal cellulase is homogeneous.

The '782 patent explains that (Exh. 2, col. 8, ll. 15-23):

For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or

overproducing one or more EG components. Moreover, the methods of that application create *Trichoderma longibrachiatum* strains that do not produce any heterologous proteins.

This limitation does not patentably distinguish claim 46 of the present application from the prior art or the proposed Count. Accordingly, claim 46 corresponds to the proposed Count.

Claim 47 of the Present Application

Claim 47 of the present application depends from claim 44 and adds that the fungal cellulase composition is prepared from a genetically modified organism. The '782 patent discloses the genetic modification to produce organisms that yield fungal cellulase composition. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 47 of the present application from the prior art or the proposed Count. Accordingly, claim 47 corresponds to the proposed Count.

Claim 48 of the Present Application

Claim 48 of the present application depends from claim 47 and adds that the genetically modified organism is a fungus. The '782 patent discloses the genetic modification of a fungus to produce fungal cellulase compositions. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 48 of the present application from the prior art or the proposed Count. Accordingly, claim 48 corresponds to the proposed Count.

#### Claim 49 of the Present Application

Claim 49 depends from claim 44 and adds that the endoglucanase component has a CMC-endoase activity of at least 50 CMC-endoase units/mg of total cellulase. The present application explains that CMC-endoase activity is the endoglucanase activity of the endoglucanase component of the fungal cellulase composition in terms of certain abilities. Spec., p. 3, ll. 3-9. A unit of CMC-endoase activity is a measurement of this. Spec., p. 3, ll. 25-28.

This limitation does not patentably distinguish claim 49 of the present application from the prior art or the proposed Count. Accordingly, claim 49 corresponds to the proposed Count.

#### Claim 51 of the Present Application

Claim 51 depends from claim 50 and adds that the composition has a pH ranging from 3 to 10. The '782 patent explains that the detergent compositions of the present invention can be used in wash media having acidic, neutral or alkaline pH, ranging from about 4 to about 10, preferably to about 9, and more preferably to about 8. Exh. 2, col. 5, ll. 4-5, col. 10, ll. 42-49. The '785 patent further explains that a wash medium is an aqueous wash solution prepared by diluting a detergent composition in water. Exh. 2, col. 10, ll. 36-38. The dilution of a composition of the present invention having a pH in the range as in claim 51, could result in an acidic, neutral or alkaline pH in the range as described in the '785 patent as useful wash media.

This limitation does not patentably distinguish claim 51 of the present application from the prior art or the proposed Count. Accordingly, claim 51 corresponds to the proposed Count.

#### Claim 52 of the Present Application

Claim 52 depends from claim 50 and adds that the fungal cellulase is homogeneous.

The '782 patent explains that (Exh. 2, col. 8, ll. 15-23):

For example, U.S. Ser. No. 07/593,919, filed Oct. 5, 1990 ... discloses methods for genetically engineering *Trichoderma longibrachiatum* so as to be incapable of producing one or more CBH components and/or overproducing one or more EG components. Moreover, the methods of that application create *Trichoderma longibrachiatum* strains that do not produce any heterologous proteins.

This limitation does not patentably distinguish claim 52 of the present application from the prior art or the proposed Count. Accordingly, claim 52 corresponds to the proposed Count.

#### Claim 53 of the Present Application

Claim 53 of the present application depends from claim 50 and adds that the fungal cellulase composition is prepared from a genetically modified organism. The '782 patent discloses the genetic modification to produce organisms that yield fungal cellulase composition. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 53 of the present application from the prior art or the proposed Count. Accordingly, claim 53 corresponds to the proposed Count.

#### Claim 54 of the Present Application

Claim 54 of the present application depends from claim 53 and adds that the genetically modified organism is a fungus. The '782 patent discloses the genetic modification of a fungus to produce fungal cellulase compositions. *See, e.g.*, Exh. 2, col. 8, ll. 12-36.

This limitation does not patentably distinguish claim 54 of the present application from the prior art or the proposed Count. Accordingly, claim 54 corresponds to the proposed Count.

**VII. Application Pursuant to 37 C.F.R. §1.607(a)(5) of the Claims Identified as Corresponding to the Proposed Count and not Previously in the Application to the Disclosure of the Application**

All of the claims of the present application were previously in the application. Therefore, no claims of the present application that were not previously in the application are identified as corresponding to the proposed count.

**VIII. Explanation of How the Requirements of 35 U.S.C. §135(b) Are Met by Claims of the Present Application which Were not Present in the Application until More than One Year after the Issue Date of U.S. Patent No. 6,107,265 and the Issue Date of U.S. Patent No. 6,162,782**

Claims 32-55 were added in compliance with 35 U.S.C. §135(b) to the present application by the Preliminary Amendment mailed December 13, 2000, less than one year after the issue date of the '265 patent, August 22, 2000, and less than one year after the issue date of the '782 patent, December 19, 2000. *See* M.P.E.P. §2307, "Applicant Requests Interference With a Patent - COMPLIANCE WITH 35 U.S.C. §135(b)". These claims were for the same or substantially the same subject matter as at least one of the claims of the '265 patent and at least one of the claims of the '782 patent. 35 U.S.C. §135(b).



**IX. Identification Pursuant to 37 C.F.R. §1.607(c) of Application Claims which Correspond Substantially to Claims of U.S. Patent No. 5,763,385**

Applicants submit that:

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 1 of the '265 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 2 of the '265 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 3 of the '265 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 4 of the '265 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 5 of the '265 patent;

Claims 34, 40, 46, and 52 of the present application correspond substantially to claim 6 of the '265 patent; and

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 7 of the '265 patent, for the reasons and exceptions noted above.

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 1 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 2 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 3 of the '782 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 4 of the '782 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 5 of the '782 patent;

Claims 34, 40, 46, and 52 of the present application correspond substantially to claim 6 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 7 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 8 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 9 of the '782 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 10 of the '782 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 11 of the '782 patent;

Claims 34, 40, 46, and 52 of the present application correspond substantially to claim 12 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 13 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 14 of the '782 patent;

Claims 32, 33, 37-39, 43-45, and 49-51 of the present application correspond substantially to claim 15 of the '782 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 16 of the '782 patent;

Claims 35, 36, 41, 42, 47, 48, 53, and 54 of the present application correspond substantially to claim 17 of the '782 patent; and

Claims 34, 40, 46, and 52 of the present application correspond substantially to claim 18 of the '782 patent for the reasons and exceptions noted above.

**X. Statement Obviating Showing under 37 C.F.R. §1.608**

The present application is a continuation application of U.S. S. N. 09/189,028, filed November 10, 1998; which is a divisional application of U.S.S.N. 08/389,423, filed February 14, 1995, which issued as U.S. Patent No. 5,948,672; which is a continuation application of U.S.S.N. 07/946,489, filed November 25, 1992, which is a 35 U.S.C. §371 application of PCT application no. PCT/DK91/00123, filed May 8, 1991; which claims priority under 35 U.S.C. §119 from Danish patent application nos. 1159/90, filed May 9, 1990, and 736/91, filed April 22, 1991. Therefore, the present application is entitled to an effective filing date of as early as May 9, 1990.

The application that issued as the '265 patent was filed on November 15, 1993, as a continuation application of U.S. S. N. 07/713,738, filed June 11, 1991; which is a continuation-in-

part application of U.S.S.N. 07/593,919, filed October 5, 1990. Therefore, the earliest effective filing date that might be accorded the '265 patent is October 5, 1990.

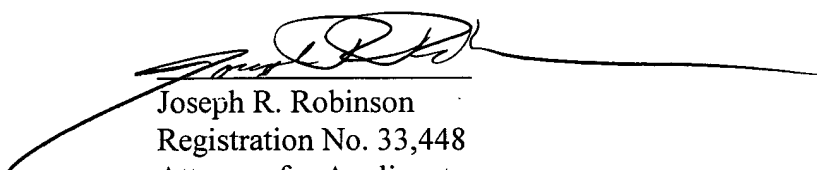
The application that issued as the '782 patent was filed on June 5, 1995, as a continuation application of U.S. S. N. 08/152,099, filed November 15, 1993, which issued as the '265 patent; which is a continuation application of U.S.S.N. 07/713,738, filed June 11, 1991; which is a continuation-in-part application of U.S.S.N. 07/593,919, filed October 5, 1990. Therefore, the earliest effective filing date that might be accorded the '782 patent is October 5, 1990.

The present application has an effective filing date prior to the effective filing dates of the '265 and '782 patents. Accordingly, a showing under 37 C.F.R. §1.608 is unnecessary.

#### **XI. Conclusion**

In view of the foregoing, applicants submit that there is interfering subject matter between (i) the present application and (ii) U.S. Patent Nos. 6,107,265 and 6,162,782 and request that an interference be declared.

Respectfully submitted,



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